SEQUENCE LISTING

<110>   KLINEFELTER, Gary

<120>   METHOD FOR EVALUATING AND AFFECTING MALE FERTILITY

<130>   KLINEFELTER=1C

<140>   09/752,514
<141>   2001-01-03

<150>   US 09/123,492
<151>   1998-07-28

<150>   PCT/US97/01725
<151>   1998-01-29

<150>   US 08/593,677
<151>   1996-01-29

<150>   US 60/082,753
<151>   1998-04-23

<160>   4

<170>   PatentIn version 3.1

<210>   1
<211>   189
<212>   PRT
<213>   Homo sapiens

<400>   1

Met Ala Ser Lys Arg Ala Leu Val Ile Leu Ala Lys Gly Ala Glu Glu
1   5   10   15

Met Glu Thr Val Ile Pro Val Asp Val Met Arg Arg Ala Gly Ile Lys
                20   25   30

Val Thr Val Ala Gly Leu Ala Gly Lys Asp Pro Val Gln Cys Ser Arg
            35   40   45

Asp Val Val Ile Cys Pro Asp Ala Ser Leu Glu Asp Ala Lys Lys Glu
    50   55   60

Gly Pro Tyr Asp Val Val Val Leu Pro Gly Gly Asn Leu Gly Ala Gln
65   70   75   80

Asn Leu Ser Glu Ser Ala Ala Val Lys Glu Ile Leu Lys Glu Gln Glu
                85   90   95

```
Asn Arg Lys Gly Leu Ile Ala Ala Ile Cys Ala Gly Pro Thr Ala Leu
        100                 105                 110

Leu Ala His Glu Ile Gly Cys Gly Ser Lys Val Thr Thr His Pro Leu
        115                 120                 125

Ala Lys Asp Lys Met Met Asn Gly Gly His Tyr Thr Tyr Ser Glu Asn
        130                 135                 140

Arg Val Glu Lys Asp Gly Leu Ile Leu Thr Ser Arg Gly Pro Gly Thr
145                 150                 155                 160

Ser Phe Glu Phe Ala Leu Ala Ile Val Glu Ala Leu Asn Gly Lys Glu
                165                 170                 175

Val Ala Ala Gln Val Lys Ala Pro Leu Val Leu Lys Asp
        180                 185
```

<210> 2
<211> 980
<212> DNA
<213> Rattus rattus

<220>
<221> CDS
<222> (190)..(756)
<223>

```
<400> 2
gctgtgcaga gccgtctggc agggttgacc tcctaaaggg atattccatc tttattaatc      60

attagtagtg tggtcagaga cttagcacca ttggtctccc ccaacctggt ccagacattt     120

cagcagttta tcggaacagc aacaacagca acaaaacctt caaaatttac aagtctttaa     180

gaaatagaa atg gca tcc aaa aga gct ctg gtc atc cta gcc aaa gga gca     231
          Met Ala Ser Lys Arg Ala Leu Val Ile Leu Ala Lys Gly Ala
           1           5                  10

gag gag atg gag aca gtg att cct gtg gac atc atg cgg cga gct ggg     279
Glu Glu Met Glu Thr Val Ile Pro Val Asp Ile Met Arg Arg Ala Gly
15                  20                  25                  30

att aaa gtc acc gtt gca ggc ttg gct ggg aag gac ccc gtg cag tgt     327
Ile Lys Val Thr Val Ala Gly Leu Ala Gly Lys Asp Pro Val Gln Cys
                35                  40                  45

agc cgt gat gta gtg att tgt ccg gat acc agt ctg gaa gaa gca aaa     375
Ser Arg Asp Val Val Ile Cys Pro Asp Thr Ser Leu Glu Glu Ala Lys
            50                  55                  60
```

```
aca cag gga cca tac gat gtg gtt gtt ctt cca gga gga aat ctg ggt      423
Thr Gln Gly Pro Tyr Asp Val Val Val Leu Pro Gly Gly Asn Leu Gly
        65              70                  75

gca cag aac tta tct gag tcg gct ttg gtg aag gag atc ctc aag gag      471
Ala Gln Asn Leu Ser Glu Ser Ala Leu Val Lys Glu Ile Leu Lys Glu
        80              85                  90

cag gag aac agg aag ggc ctc ata gct gcc atc tgt gcg ggt cct acg      519
Gln Glu Asn Arg Lys Gly Leu Ile Ala Ala Ile Cys Ala Gly Pro Thr
95              100             105                 110

gcc ctg ctg gct cac gaa gta ggc ttt gga tgc aag gtt aca tcg cac      567
Ala Leu Leu Ala His Glu Val Gly Phe Gly Cys Lys Val Thr Ser His
            115             120                 125

cca ttg gct aag gac aaa atg atg aac ggc agt cac tac agc tac tca      615
Pro Leu Ala Lys Asp Lys Met Met Asn Gly Ser His Tyr Ser Tyr Ser
            130             135                 140

gag agc cgt gtg gag aag gac ggc ctc atc ctc acc agc cgt ggg cct      663
Glu Ser Arg Val Glu Lys Asp Gly Leu Ile Leu Thr Ser Arg Gly Pro
        145             150                 155

ggg acc agc ttc gag ttt gcg ctg gcc att gtg gag gca ctc agt ggc      711
Gly Thr Ser Phe Glu Phe Ala Leu Ala Ile Val Glu Ala Leu Ser Gly
        160             165                 170

aag gac atg gct aac caa gtg aag gcc ccg ctt gtt ctc aaa gac          756
Lys Asp Met Ala Asn Gln Val Lys Ala Pro Leu Val Leu Lys Asp
175             180                 185

tagagagccc aagccctgga ccctggaccc ccaggctgag caggcattgg aagcccacta    816

gtgtgtccac agcccagtga acctggcatt ggaagcccac tagtgtgtcc acagcccagt    876

gaacctcagg aactaacgtg tgaagtagcc cgctgctcag gaatctcgcc ctggctctgt    936

actattctga gccttgctag tagaataaac agttccccaa gctc                     980
```

```
<210>   3
<211>   189
<212>   PRT
<213>   Rattus rattus

<400>   3

Met Ala Ser Lys Arg Ala Leu Val Ile Leu Ala Lys Gly Ala Glu Glu
1               5                   10                  15


Met Glu Thr Val Ile Pro Val Asp Ile Met Arg Arg Ala Gly Ile Lys
                20                  25                  30


Val Thr Val Ala Gly Leu Ala Gly Lys Asp Pro Val Gln Cys Ser Arg
        35                  40                  45
```

```
Asp Val Val Ile Cys Pro Asp Thr Ser Leu Glu Glu Ala Lys Thr Gln
    50              55              60

Gly Pro Tyr Asp Val Val Val Leu Pro Gly Gly Asn Leu Gly Ala Gln
65              70              75              80

Asn Leu Ser Glu Ser Ala Leu Val Lys Glu Ile Leu Lys Glu Gln Glu
            85              90              95

Asn Arg Lys Gly Leu Ile Ala Ala Ile Cys Ala Gly Pro Thr Ala Leu
            100             105             110

Leu Ala His Glu Val Gly Phe Gly Cys Lys Val Thr Ser His Pro Leu
        115             120             125

Ala Lys Asp Lys Met Met Asn Gly Ser His Tyr Ser Tyr Ser Glu Ser
    130             135             140

Arg Val Glu Lys Asp Gly Leu Ile Leu Thr Ser Arg Gly Pro Gly Thr
145             150             155             160

Ser Phe Glu Phe Ala Leu Ala Ile Val Glu Ala Leu Ser Gly Lys Asp
            165             170             175

Met Ala Asn Gln Val Lys Ala Pro Leu Val Leu Lys Asp
            180             185
```

```
<210>   4
<211>   842
<212>   DNA
<213>   Rattus rattus

<220>
<221>   CDS
<222>   (52)..(618)
<223>


<400>   4
tggcttcgcg tgggtggagg aggcgcggct gcaggtcttt aagaaataga a atg gca    57
                                                          Met Ala
                                                          1

tcc aaa aga gct ctg gtc atc cta gcc aaa gga gca gag gag atg gag   105
Ser Lys Arg Ala Leu Val Ile Leu Ala Lys Gly Ala Glu Glu Met Glu
        5               10              15
```

```
aca gtg att cct gtg gac atc atg cgg cga gct ggg att aaa gtc acc        153
Thr Val Ile Pro Val Asp Ile Met Arg Arg Ala Gly Ile Lys Val Thr
    20              25              30

gtt gca ggc ttg gct ggg aag gac ccc gtg cag tgt agc cgt gat gta        201
Val Ala Gly Leu Ala Gly Lys Asp Pro Val Gln Cys Ser Arg Asp Val
35              40              45                      50

gtg att tgt ccg gat acc agt ctg gaa gaa gca aaa aca cag gga cca        249
Val Ile Cys Pro Asp Thr Ser Leu Glu Glu Ala Lys Thr Gln Gly Pro
            55              60              65

tac gat gtg gtt gtt ctt cca gga gga aat ctg ggt gca cag aac tta        297
Tyr Asp Val Val Val Leu Pro Gly Gly Asn Leu Gly Ala Gln Asn Leu
        70              75              80

tct gag tcg gct ttg gtg aag gag atc ctc aag gag cag gag aac agg        345
Ser Glu Ser Ala Leu Val Lys Glu Ile Leu Lys Glu Gln Glu Asn Arg
        85              90              95

aag ggc ctc ata gct gcc atc tgt gcg ggt cct acg gcc ctg ctg gct        393
Lys Gly Leu Ile Ala Ala Ile Cys Ala Gly Pro Thr Ala Leu Leu Ala
    100             105             110

cac gaa gta ggc ttt gga tgc aag gtt aca tcg cac cca ttg gct aag        441
His Glu Val Gly Phe Gly Cys Lys Val Thr Ser His Pro Leu Ala Lys
115             120             125             130

gac aaa atg atg aac ggc agt cac tac agc tac tca gag agc cgt gtg        489
Asp Lys Met Met Asn Gly Ser His Tyr Ser Tyr Ser Glu Ser Arg Val
            135             140             145

gag aag gac ggc ctc atc ctc acc agc cgt ggg cct ggg acc agc ttc        537
Glu Lys Asp Gly Leu Ile Leu Thr Ser Arg Gly Pro Gly Thr Ser Phe
        150             155             160

gag ttt gcg ctg gcc att gtg gag gca ctc agt ggc aag gac atg gct        585
Glu Phe Ala Leu Ala Ile Val Glu Ala Leu Ser Gly Lys Asp Met Ala
        165             170             175

aac caa gtg aag gcc ccg ctt gtt ctc aaa gac tagagagccc aagccctgga    638
Asn Gln Val Lys Ala Pro Leu Val Leu Lys Asp
    180             185

ccctggaccc ccaggctgag caggcattgg aagcccacta gtgtgtccac agcccagtga    698

acctggcatt ggaagcccac tagtgtgtcc acagcccagt gaacctcagg aactaacgtg    758

tgaagtagcc cgctgctcag gaatctcgcc ctggctctgt actattctga gccttgctag    818

tagaataaac agttccccaa gctc                                            842
```